11-15-68

ERIC REPORT RESUME

ERIC ACC. NO.				IS DOCUMENT COPYRIGHTED?	YES ☐ NO ☒
ED 042 063				ERIC REPRODUCTION RELEASE?	YES ☐ NO ☒
CH ACC. NO.	P.A.	PUBL. DATE	ISSUE	LEVEL OF AVAILABILITY	I ☒ II ☐ III ☐
AA 000 601		Oct 70	RIEJAN71		

AUTHOR

TITLE

Scope of Work Statement for RFP 70-6: "Phase I of the Targeted Research and Development Program on Reading.

SOURCE CODE	INSTITUTION (SOURCE)
BBB02778	OE/National Center for Educational Research and Development
SP. AG. CODE	SPONSORING AGENCY

EDRS PRICE	CONTRACT NO.	GRANT NO.
0.25;2.70		

REPORT NO.	BUREAU NO.

AVAILABILITY

JOURNAL CITATION

DESCRIPTIVE NOTE

52p.

DESCRIPTORS

*Reading Programs; *Prognostic Tests; *Research Proposals; *Test Validity; *Task Performance; Standards

IDENTIFIERS

ABSTRACT

The U.S. Office of Education is undertaking a program of research and development designed to reach the following objective: 100% of all persons not in permanent care institutions must pass, by age 10, a criterion-referenced test which is predictive of competent performance on a set of adult reading tasks selected to have favorable returns to the individual and to society in general. The purpose of this Request for Proposal is to implement the recommendations of expert advisors that the objective statement be further specified and operationalized through the following activities: (1) definition and description of the recognized subgroups of subjects who comprise the target population of the program by providing explicit inclusion-exclusion criteria and identifying parameters and parameter values which differentiate the subgroups, (2) identification of a set of adult criterion reading tasks which adequately sample the tasks for which highly favorable returns to the individual and to society can be demonstrated and the construction of an assessment procedure to validate the choice of those adult reading tasks as the performance criterion dimension of the program objective, and (3) determination of resource ceilings within which instructional systems generated through the targeted R&D program on reading must operate. (CK)

U.S. OFFICE OF EDUCATION
National Center for Educational Research and Development

SCOPE OF WORK STATEMENT

for RFP 70-6

Closing Date May 11, 1970

"Phase I of the Targeted Research and Development Program on Reading"

Project I : Refinement of the Program Goal

Project II : Literature Search

Project III: Status Survey

Foreword

The National Center for Educational Research and Development views the Targeted R&D Program on Reading primarily as an attempt to assemble the scientific and engineering expertise necessary for reaching the Right To Read Goal, but we also view the Program as a study of research management. For both these reasons, we feel that it is appropriate to document every major event in the general literature so that scientists, developers, educators, and managers may understand the Program and advise us on how to improve it.

The following scope of work statement was used in awarding the Phase I contracts; in its present form, it must not be regarded as a new solicitation.

Other documents which relate to the Targeted R&D Program on Reading are:

1. Gephart, William J., Application of the Convergence Technique to Basic Studies of the Reading Process, (Bloomington, Ind: Phi Delta Kappa, Inc., 1970) Final Report of NCERD Project 8-0737.
   ERIC Document 037587; $1.00 in Microfiche; $12.45 in hard copy.

2. Carrese, Louis M. and Carl G. Baker, "The Convergence Technique: A Method for the Planning and Programming of Research Efforts," Management Science, Vol. 13 No. 8, April 1967.

3. Gephart, William J. and Monte Penney, "The Convergence Technique for Research in the Social Sciences: An Application to the Study of Reading," in Reading: Process and Pedagogy: Nineteenth Yearbook of the National Reading Conference, (Milwaukee: Marquette University Press, in press).

4. Penney, Monte and Richard B. Adams, "Forecasts of Future Reading Research," in Bateman, Barbara (ed.) Learning Disorders, Vol. 4: The Reading Problem, (Seattle: Special Child Publications, scheduled for publication in spring, 1971.)

5. Penney, Monte, Howard F. Hjelm, and William J. Gephart, "The Targeted R&D Program on Reading," American Educational Research Journal, May 1970.

6. Penney, Monte, "An Introduction to the Convergence Technique," Educational Researcher (Newsletter of the American Educational Research Association), February 1970.

7. Penney, Monte, "Looking Deep into the Reading Process," American Education, (Washington: U.S. Office of Education, March 1970)

8. Gephart, William J., "The Targeted Research and Development Program on Reading: a report on the application of the Convergence Technique," Reading Research Quarterly, Summer, 1970.

9. Ellson, Douglas G., "A Critique of the Targeted Research and Development Program on Reading," Reading Research Quarterly, Summer, 1970.

The final pages of this document are a USOE press release which announced the Phase I contract awards.

Monte Penney
Research Associate
National Center for Educational
Research and Development

(Attachment B - continued)

1B - Possible Division of Activities Among Contractors

This Request for Proposal solicits work which will implement Phase I of the Targeted Research and Development Program on Reading.

Three "Projects" are described in the Request for Proposal, and each "project's" scope of work has three sub-parts. This arrangement has been selected for clarity of presentation and for management of the review process.

No single proposal may address more than one of the three major Projects. For example, an offeror wishing to compete for sub-part 3 of Project I and for all of Project II must submit two separate proposals.

Within each major Project, offerors may wish to bid on sub-parts within the following guidelines:

Project I: Refinement of the Program Objective

Sub-parts 1 and 2 of this Project must be conducted by one contractor; sub-part 3 may be conducted by a separate contractor. An offeror may submit one proposal to bid on all sub-parts.

Project II: Literature Search

Sub-parts 1, 2, and 3 of this Project must be conducted by one contractor; that is, any proposal for Project II must include all three sub-parts.

Project III: Status Survey

The sub-parts of this Project may be conducted by separate contractors. An offeror may submit one proposal to bid on one, any two, or all three sub-parts.

Proposals must be labeled to indicate precisely which Project they address.

(Attachment B - continued)

IC

Targeted R&D Program on Reading
Project No. I: Refinement of the Program Objective

I. Statement of Purpose:

The U.S. Office of Education is undertaking a program of research and development designed to reach the following objective: 100% of all persons not in permanent care institutions must pass, by age 10, a criterion - referenced test which is predictive of competent performance on a set of adult reading tasks selected to have favorable returns to the individual and to society in general.

The purpose of this Request for Proposal is to implement the recommendations of expert advisors that the objective statement be further specified and operationalized through the following activities:

1. Define and describe the recognized subgroups of subjects who comprise the target population of the program by providing explicit inclusion-exclusion criteria and identifying parameters and parameter values which differentiate the subgroups.

2. Identify a set of adult criterion reading tasks which adequately sample the tasks for which highly favorable returns to the individual and to society can be demonstrated and construct an assessment procedure to validate the choice of those adult reading tasks as the performance criterion dimension of the Program objective.

3. Determine resource ceilings within which instructional systems generated through the Targeted R&D Program on Reading must operate.

(Attachment B - continued)

II. Definitions:

1. Assessment procedure: A test instrument which is not subject to the cost-efficiency or time-efficiency contraints normally required of a fully developed instrument. Specifically, a procedure which distinguishes between adults who can perform the set of high-benefit reading tasks and those who cannot.

2. Reading task: A real-life incident which creates an internally or externally imposed requirement for an individual to perform a discrete, observable operation which is highly dependent upon his having satisfactorily read a specific passage of written material.

   Examples of reading tasks are: (a) looking up a telephone number; (b) following written directions which tell how to assemble a toy or an appliance; (c) responding to a written social invitiation; and (d) completing a written job application.

3. Class of reading tasks: An aggregation of discrete reading tasks according to a logical or empirical classification scheme.

4. Criterion task: A reading task which represents a class of reading tasks. Presumeably, the assessment procedure will be composed of criterion tasks.

5. Adult: A person who (a) is over 16 years of age and (b) makes his own major day-to-day decisions on problems such as choosing a place of residence, choosing a job, managing his money, etc.

III. Scope of Work:

1. Define and describe the recognized subgroups of subjects who comprise the target population of the program by providing explicit inclusion-exclusion criteria and identifying parameters and parameter values which differentiate the subgroups.

This activity answers the question, "Who will be able to read when the program has satisfied its objective?"

As originally delineated by the planning project, the target population includes all persons over 10 years of age who do not have physical or emotional handicaps which require permanent institutional care. On a logical basis, there may well be people in permanent care institutions who can learn to read (e.g., the bright but emotionally disturbed child); similarly, persons who are not permanently institutionalized may include some who cannot learn to read in the usual sense of the word (e.g., the well-adapted, self-sufficient blind person). The Contractor shall provide one hundred copies of a report which provides (a) inclusion and exclusion criteria for the target population; (b) definition and description of the major subpopulations within the target population; and (c) a rationale for the exclusion of any category of persons from the target population.

2. Identify a set of adult criterion reading tasks which adequately sample the tasks for which highly favorable returns to the individual and to society can be demonstrated and construct an assessment procedure to validate the choice of those adult reading tasks as the performance criterion dimension of the Program objective.

This activity requires pursuit of the following general strategy:

(a) Design an adequate plan for representative sampling of the adult population of the United States. (See definition of "adult," above.)

(b) Identify the universe of reading tasks actually performed by the resulting sample.

(c) Develop one or more schemes for classifying the universe of reading tasks.*

(d) Perform studies to determine the benefits which accrue to the individual and to society when adequate performance of a class of tasks can be demonstrated.

(e) Select criterion tasks which represent high-benefit classes of reading tasks.

(f) Construct an assessment procedure based on the work performed in (a) through (e).

(g) Validate the assessment procedure by testing hypotheses approximating the following form:

"The benefits identified in (d) for a class of reading tasks accrue to individuals who can perform the criterion tasks which represent that class."

The Contractor shall provide 100 copies of a report which (a) details the results and methodology of his pursuit of the general strategy outlined above and (b) provides data to permit evaluation of the adequacy of his performance of each step in the overall activity.

*Such schemes would classify reading tasks, on such bases as readability, similarity, or frequency of occurence.

3. Determine resource ceilings within which reading instruction systems generated through the Targeted R&D Program on Reading must operate:

This activity attempts to answer the question, "What is society willing and able to invest, in terms of per pupil resource expenditure over the 10-year educational period implied by the Program objective, to obtain the performance specified in (2)?" The results of this study will specify the cost-efficiency dimension of the overall objective of the Targeted R&D Program on Reading. The Contractor shall supply 100 copies of a report detailing his methodology and findings in establishing the cost ceiling to be applied.

IV. Criteria for the Evaluation of Proposals:

1. Evidence that the Offeror can provide the overall managment capability necessary to insure quality, completeness, and efficient utilization of time and funds.
2. Appropriateness of the training and experience of the staff and consultants.
3. Appropriateness and adequacy of the technical methodology proposed for each of the three activities in the section titled "Scope of Work:"
4. Evidence that the Offeror has access to, and will seek, advice from professional persons and institutions interested in adult reading competence. The Offeror's success in this regard provides public and professional credibility for his project and for the entire program.

(Attachment B - continued)

ID

Targeted R&D Program on Reading
Project No. 2: Literature Search

I. Statement of Purpose:

Preliminary work by the planning group for the Targeted R&D Program on Reading has identified three concurrent activities to serve as a basis for implementing a large scale R and D effort. One of these is a search or searches of the published literature on the phenomena listed below:

1. the reading process,
2. the learning-to-read process, and
3. language development related to reading.

For each of the phenomena listed above:

a. Identify existing models or partial models.*

b. Describe and analyze the models identified.

c. Combine partial models where logically feasible.

d. Specify research efforts needed to test and develop the models further.

II. Definitions:

The phenomena defined below are all under active investigation. Accordingly, the research literature contains many alternative definitions of them, derived from different disciplinary points of view. The following definitions, prepared by the planning team, do not attempt to select the "best" alternative. Instead, they are intended to describe their respective

---

* Hereafter the term models will also include partial models.

phenomena in a global manner appropriate to a multidisciplinary R&D program.

1. Model: A model is a representation of a phenomenon which displays the identifiable elements of the phenomenon and the relationships among those elements, and the processes through which those elements interact. Models serve three general purposes: (a) to explain what a complex phenomenon is; (b) to describe how the phenomenon works; and (c) to provide the basis for predicting the changes which will occur in one element of the phenomenon when changes are made in one or more other elements.

2. Partial Model: Models may be partial in either or both of two senses: (a) they may attempt to represent only a part of their target phenomenon; or, (b) they may be only partially developed, given successful prediction as described in (1c) above as the criterion for complete development.

3. Reading Process: The collection of real events which occur in a reader while he is engaged in reading behaviors. These events probably include physiological ones (neural, bio-chemical, etc.) and psychological ones (cognitive, perceptual, affective, etc.). Reading behaviors are covert responses to written verbal language; they are indicated by overt performances which could not have occurred without the covert responses.

(Attachment B, continued)

4. Learning-to-read process: The collection of real events which occur in an individual in response to formal reading instruction, informal reading instruction (e.g., random exposure to written verbal language in the environment), and other classes of stimuli necessary (but not now specifiable) to the development of reading abilities.

5. Other Language development related to reading: The acquisition of speaking, listening, and writing abilities during the acquisition of reading abilities. In general, children are able to speak and to listen before they become able to read and write. As the latter two abilities develop, they begin to affect the former two and vice versa.

III. Scope of Work:

The end product of the work will be a written report or reports which include but are not necessarily limited to the items below. The full insight of the contractor(s) is sought.

a. Models of the reading process.

b. Models of the learning-to-read process.

c. Models of language development related to reading.

For each of the above, the contractor will identify all existing models and related research reports in the literature and evaluate them on the basis of criteria developed by the contractor and accepted by a review panel selected jointly by the contractor and USOE, reporting all models that satisfy the criteria. For each model, the contractor will describe

(Attachment B, continued)

the key features, identify and analyze all supporting assumptions and hypotheses. Further, the report will synthesize all models having common structural and/or process elements, making explicit the logical bases for each synthesis. The contractor will maintain complete records of sources and systematic files of raw data for later input into the Targeted R&D Program on Reading information system.

IV. Plan of Operation:

The attached flow chart and explanatory key suggest the level of effort that will be required in carrying out the project(s). The attached Occasional Paper Number 3, "Profiling Educational Research" by William J. Gephart, shows a preferred procedure for activity 23 on the flow chart. Bidders are expected to present a documented logical case to justify the procedures that the propose to follow, whether those procedures adopt, modify, or replace those shown in the flow chart and occasional paper. Regardless of the procedures proposed, bidders will be expected to provide a comprehensive listing of information sources that will be used.

It is expected that the Contractor(s) will find it desirable to meet with appropriate OE staff and the review panel at appropriate times.

On the expiration date of the contract, the contractor will submit to the Office of Education 100 copies of the final report in compliance with procedures outlined in the NCERD publication, Preparing Research Reports for the U.S. Office of Education. The contractor should also be prepared to give an oral presentation of the results of the study to an audience

(Attachment B, continued)

selected by NCERD. It is expected that all work will be completed on or before June 30, 1971.

V. Criteria for Evaluation of Proposals:

Proposals will be evaluated on the basis of the following criteria:

a. Comprehensiveness of the proposed plan to identify and obtain research literature which discusses the reading process, the process of learning to read, and language development related to reading.

b. Quality of the strategy for analysis and evaluation outlined and comprehensiveness of the proposed evaluative criteria and tools to be used in the assessment of the research literature.

c. Evidence of ability to manage the overall project.

d. Adequacy of time and appropriateness of experience and qualifications of institutional and consultative personnel related to the project:

1. Project director
2. Other key personnel
3. Supporting staff
4. Consultants

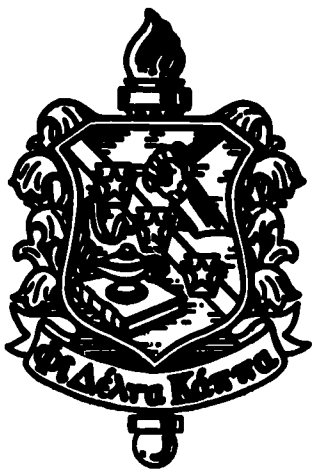
e. Availability of resources for collecting and processing information.

f. Economic efficiency

g. Feasibility of proposed time schedule

PHI DELTA KAPPA

RESEARCH SERVICE CENTER



OCCASIONAL PAPER

#3. PROFILING EDUCATIONAL RESEARCH

by

William J. Gephart
Director of Research Services
Phi Delta Kappa

January 1969

ACKNOWLEDGMENTS

The work described herein is based on the thoughts and efforts of many predecessors. Some of them are recognized in the paper presented by my colleague, Bruce B. Bartos. Through continued interactions James Raths, Robert Ingle, Robert Remstad, and Bruce Bartos have made valuable contributions to this paper. These gentlemen and the many others who have worked at evaluation of the adequacy of educational research deserve the major credit for any advancements this paper might make to our deliberations. Its inadequacies are the responsibility of its author.

W. J. G.

PROFILING COMPLETED RESEARCH

The evaluation of the quality of completed research in education has two distinct components. The first of these components is the problem attacked in the study. The second is the methodological adequacy of the study conducted. Profiling, the procedure described in this paper, deals with the latter, the evaluation of the methodological adequacy. It avoids evaluation of the problem itself on the belief that the importance of a given problem can only be established through an historical perspective. To assert otherwise would imply the existence of a preferred value system.

Evaluation of methodological adequacy of a given piece of research is a prerequiste for the acceptance or rejection of the conclusions of that investigation. Such conclusions can be no stronger than the methods utilized in generating and analyzing the data on which the conclusion is reached. In the past we have operated on the assumption: if the methodology is sound, the conclusion can be accepted and vice versa. The faultiness of this assumption is one of the problems that have long plagued both the improvement of and use of educational research.

Research methodology is multifaceted. It involves an inherent logical argument, the selection of subjects to be studied, structuring of experiences for those subjects, measurement, and the analysis of the generated data. It is possible to have sound procedures in some of these facets and weak procedures in others; a possibility that precludes a statement that a conclusion is based either on sound or unsound methods.

The problem is further complicated. Needs for surety in varying times and professional circumstances set the quality standard for research methods. If the need for knowledge in an area is great, the methodological development crude, and the amount of risk to personal safety low, conclusions can be accepted and operated on despite weaknesses in their methodological base. In another set of circumstances this would be wholly unacceptable. Since the use to which a conclusion might be put cannot be controlled, an absolute level of quality cannot be established for each research effort.

Regardless of the knowledge needs or professional circumstances, a given conclusion ought not to be accepted, held tentatively or rejected without evaluation of the research methods underlying it. It is asserted that the profiling procedure described in this paper will facilitate the labeling of the methodology of completed research reports. When this labeling has been completed, the user of that study can make sounder decisions regarding the acceptance or rejection of its conclusions.

ELEMENTS IN PROFILING

In conducting an empirical study an investigator does numerous things. Those things are the elements on which the profiling activity focuses. They include: (1) the structuring of a logical argument; (2) the generation of data; and (3) the analysis of that data. All three items are involved in investigations which test hypotheses while only items two and three are used in studies which attempt to answer empirical questions.

THE INHERENT LOGICAL ARGUMENT is of crucial importance when study attempts a test of a hypothesis. In effect, the investigator is trying to determine the truth or falsity of his hypothesis. He does this through a logical argument described by Polyá.[1] It consists of a major premise, one or more minor premises, and a conclusion.

The major premise is typically a statement which asserts, "If the _____ _____ hypothesis is a true statement; then _____ _____ events will be observed as indicators of that truth." An example of a major premise can be seen in a study reported a few years ago by McNeil.[2] He proposes a hypothesis which asserts that teachers present different instructional treatments for the two sexes of their students. As indicators of the truth of that statement he reasoned that boys would be nominated more often than girls as recipients of certain kinds of teacher action. His major premise could be stated as,

> If the hypothesis (teachers provide different instructional treatment for boys than they do for girls) is a true statement; then systematic differences by sex will be seen when children are asked to name the students who receive specified teacher treatments.

Two kinds of minor premises have been evolved from Polyá's work by Raths.[3] The first of these deals with the predicted observation. Was it or was it not seen? The premise's exact nature in a given study is determined after the data are analyzed. In the McNeil example used above, significant differences by sex were observed. The minor premise in that case would be, "There is a systematic sex differentiation in the nominations."

The second category of minor premises deals with rival hypotheses, rival or alternative explanations for the observation reported in the first minor premise. The premise is based upon the recognition that an effect in the social sciences often has multiple causes. Once an observation has been made, all its possible causes must be examined before it can be concluded that the observation supports the truth of a specific hypothesis. One of three general conditions might exist ranging from no rival hypotheses are apparent to rival hypotheses may exist to rival hypotheses are definitely involved.

The final element of the logical argument is the conclusion. Its form in a given study is dependent upon the nature of the two minor premises. From the first minor premise comes information as to whether or not the truth of the hypothesis being tested is supported. If the consequents predicted are observed, support for the truth of the hypothesis is presented. If the observation is not made, support cannot be claimed. (Note: Failure to make the predicted observation does not automatically mean rejection of the hypothesis.) The second minor premise determines the strength of the conclusion. If rival hypotheses are known to be present, very weak support for the truth of the hypothesis has been developed. If there is the possibility but not the probability of rival hypotheses, tentative support is generated. And finally, if no rival hypotheses are conceiveable, it is credible that the hypothesis is a true statement.

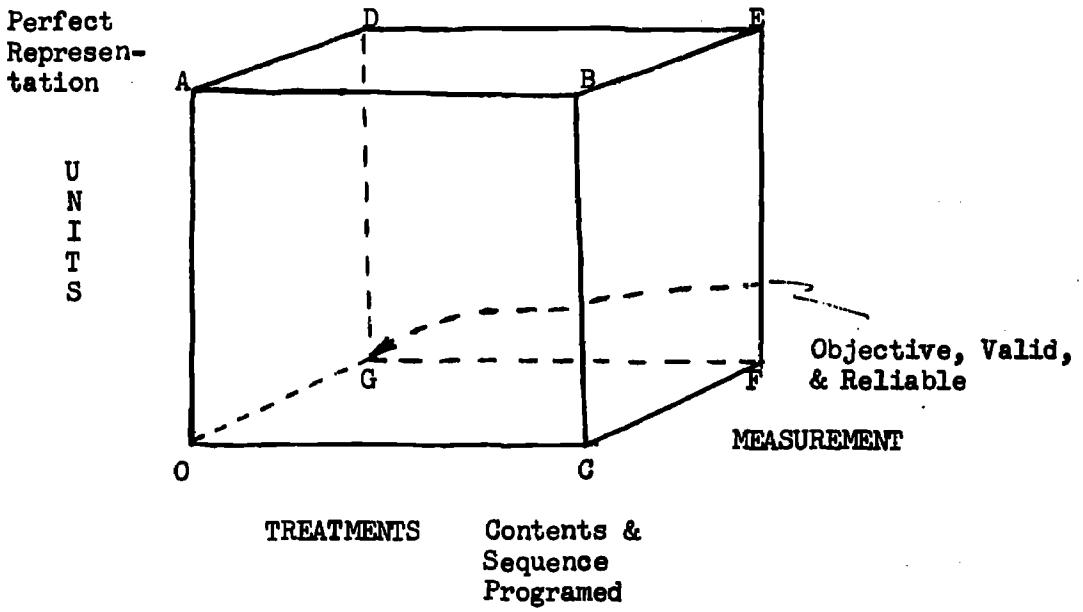
THE GENERATION OF DATA, the second major facet in profiling, involves evaluation of three aspects of data generation: units studied; treatments experienced by those units; and measurement. If variation in any of these three occurs a different set of data are generated.

For example, consider an investigation of the effects of test anxiety on achievement. If the study concentrates on a randomly selected group of high school seniors as subjects, one set of data will be generated. If a group of students who are divergent on a measure of test anxiety is selected as subjects, a different set of data will be generated. Given a specified group as subjects, variation in the treatment or of their experiences will cause different sets of data to be generated. Again the test anxiety problem provides an example. One set of data could be generated by a treatment in which the subjects are given information about the importance of a test and administered a test that is constructed for students at a much higher level of education than are the subjects. Still a different set of data will be generated if the students are repeatedly given a test that is very difficult. If the effects of a specific treatment on a specific group are measured by a paper and pencil test such as Sarazon's Test of Test Anxiety, one set of data would be generated. On the other hand if the seats in the classroom were wired and a galvanic skin response measure were taken, quite a different set of data would be generated.

These three aspects of data generation are displayed graphically in Figure 1.[4] The scale of unit quality or representativeness runs along the dimension OA, treatment quality OC, and measurement quality OG. A project which selected a sample perfectly representative of a population of interest would be located at Point A. on the cube. If, in that same study, a thorough programing of the content and sequence of the treatments was employed in generating data, the project would be conceptualized as being at Point B. on the quality cube. Finally, if our study employed perfectly objective, valid, and reliable measuring techniques, it would be located at Point E. on the cube.

FIGURE 1.

THE RESEARCH QUALITY CUBE



A given study seldom reaches this level of data generation quality. Rather it falls somewhere between the extremes. To facilitate profiling ordinal scales have been developed for these three dimensions as shown below.

Dimensions for the Research Quality Cube

Representativeness

R_5 = The entire population was studied
R_4 = Random selection from a specified population was employed to determine which units were studied
R_3 = Purposive sampling from a specified population established the group studied
R_2 = Volunteers were studied
R_1 = An unidentified group of subjects was studied

Treatment

T_6 = A theoretically based treatment was administered and described and controls were employed for mediating variables identified in the theory AND for variables extraneous to the theory that might have an effect.

T_5 = Same as T_6 with the exception of the lack of controls for extraneous variables.

T_4 = Same as T_6 with the exception of the lack of controls for theory encompassed mediating variables and extraneous variables.

T_3 = No theory stated but the employed treatment described in detail sufficient for replication.

T_2 = Commonly known treatment administered but not described in detail.

T_1 = Something of an undescribed nature was experienced by the units studied.

Measurement

M_5 = Data were generated through the use of either a commercially standardized or ad hoc instrument AND data are presented which establish high validity and reliability for its use in this measurement task.

M_4 = Data generated through the use of a commercially standardized instrument and evidence presented indicating moderate validity and reliability for this application.

M_3 = Data generated through a commercially standardized test but no evidence presented as to its validity and reliability for this application.

M_2 = Data generated through an ad hoc instrument and evidence of moderate validity and reliability presented.

M_1 = Data generated through an ad hoc instrument with either no supporting evidence as to validity and reliability or evidence indicating poor validity and reliability on either a commercially standardized or ad hoc instrument.

DATA ANALYSIS PROCEDURES are the final element in profiling. When data, typically in the form of numbers, are generated as the supporting evidence for a conclusion, understanding of the meaning of those numbers is incumbent upon the researcher and the research utilizer. That meaning is not readily apparent if there is a large quantity of numbers. Simplifying procedures have been developed; procedures which are not appropriate for all kinds of data.

The determination of the correct procedure in a given study is not an exact science. In developing a procedural flow chart for the profiling of educational research, sixteen schemes were identified which

were supposed to assist in the selection of the correct statistic for given sets of data. Some of these were incomplete schemes in that they purported to deal only with limited kinds of statistical analysis.[5] Some imply a comprehensiveness but fail to be definitive as they list a number of statistics appropriate for a given set of conditions.[6]

Since a single comprehensive grid or table for selecting the correct analytic procedure could not be found a second task was undertaken. Existing statistical procedures were catalogued and the assumptions underlying them were listed. An effort to build a comprehensive selection procedure by analyzing these items has to this point been unsuccessful. (A colleague at Indiana University[7] has just recently attacked this problem using Guttman's Facet Design and Analysis Technique[8] with initially promising results.)

Because of these problems three grids have been generated for profiling the data analysis procedures. The first of these deals with analytic procedures for sample description. It includes measures of central tendency and dispersion and classifies the procedures by levels of measurement, i.e., nominal, ordinal, and interval-ratio. The second grid is used when an associational analysis is desired. It has identical labels for its rows and columns which refer to the nature of the measurement on the two variables to be correlated. The categories in this case are:

1. Continuous variables (age, height, I.Q., achievement, etc.)
2. Forced dichotomy (number of persons over and under 100 I.Q., number of persons weighing over and under 150 pounds, etc.)
3. True dichotomy (student-nonstudent, male-female, etc.)

Given the nature of the two variables on which an associational analysis is desired the grid can be used to select the appropriate

statistic. Four special cases exist and are shown with the grid. Three of these are instances in which more than two variables are involved. The final case covers correlation among ordinal variables.

The third grid deals with inferential statistics, instances in which a generalization about the relationship between the numbers generated by observation of some sample are indicative of observations that could be made on the entire population. The categorizing elements on this grid are the number of dependent and independent variables, the level of measurement, and the number of groups. Again the determination of the appropriate level on each category for a given set of data leads to the recommended statistic.

The use of these grids leads to a specific statistic (in the inference grid there is the possibility of alternatives). Through the article the analytic procedure actually used can be identified. Two quality categories follow from a comparison of the statistic used and the statistic appropriate for the data and purpose of the study: first, the statistic used is identical with the statistic identified as appropriate; second, they are different. In the former the research is profiled as appropriately analyzed; in the latter, as inappropriately analyzed.

PROFILING SUMMARIZED: When a study has been analyzed and profiled, it has been described on the following basis:

A. Is it (1) a test of a hypothesis, or (2) an answer to an empirical question?

A_1. If it is a test of a hypothesis, is the strength of conclusion: I The hypothesis is very little more credible; II more credible; or III very much more credible?

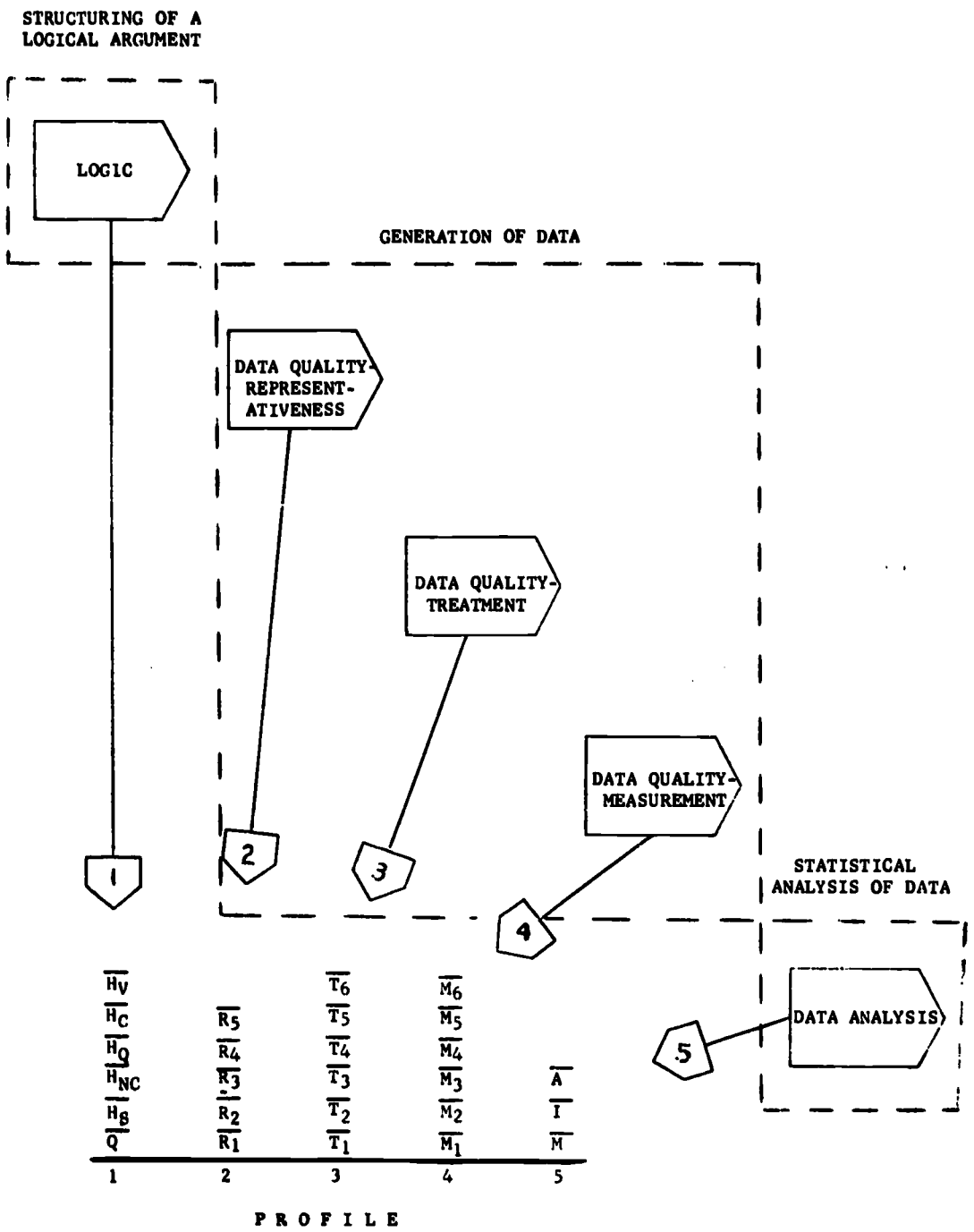
B. What is the quality of the data generation procedure $(r_i t_i m_i)$?

C. Is the data: (a) appropriately analyzed; or (b) inappropriately analyzed.

It should be noted that a single project may consist of several substudies, each of which may be profiled separately. A decisional flow chart has been developed for arriving at the profile for a given study. It is appended. Your reactions regarding its adequacy are welcomed.

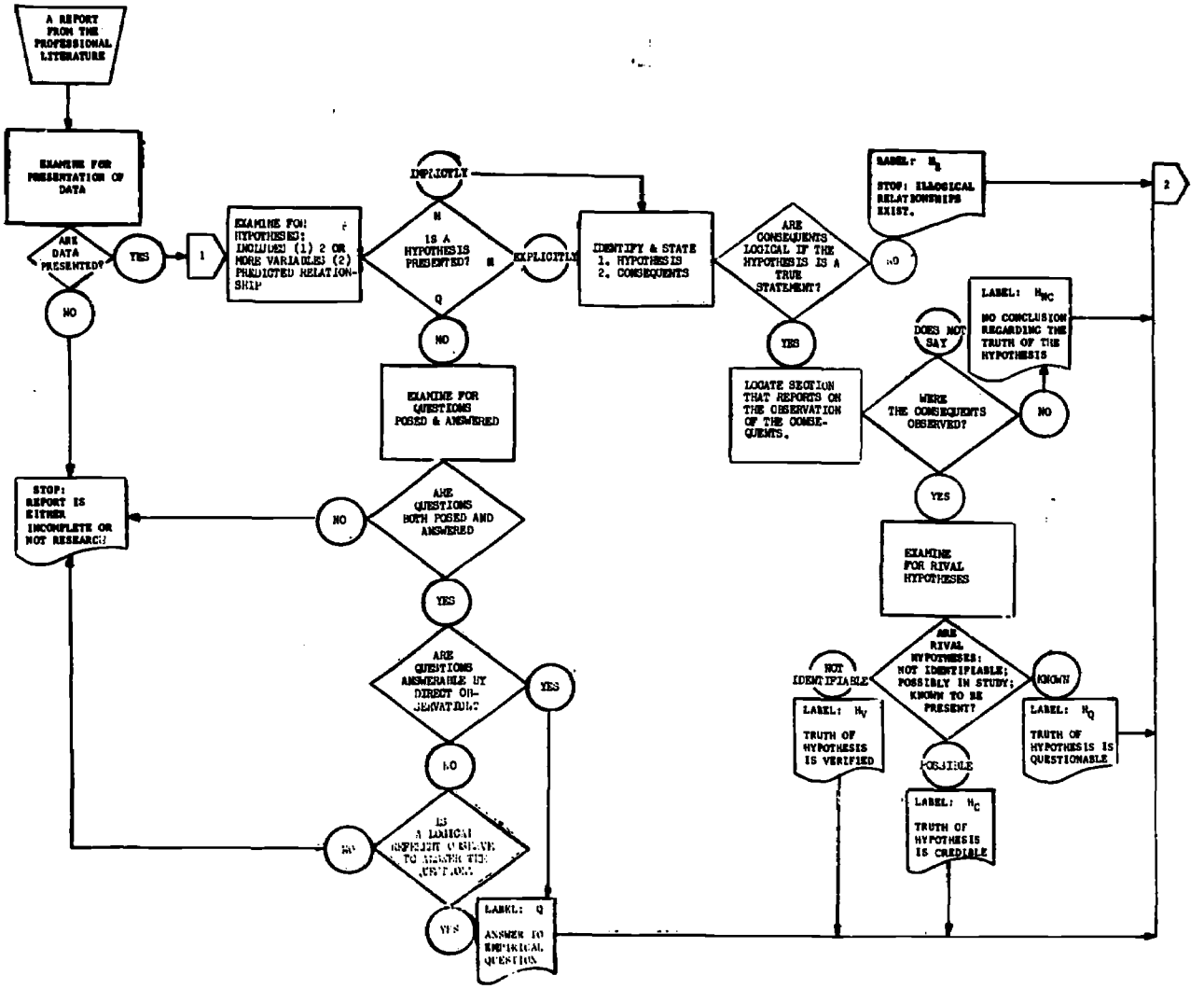
It is believed that through profiling completed research their adequacies and inadequacies can be made apparent and can more readily be considered as the conclusions of the research are weighed in decision situations. One further benefit is seen. Studies of such profiles should pinpoint problems that could keep research methodologists busy for years to come.

FACETS OF THE RESEARCH PROCESS



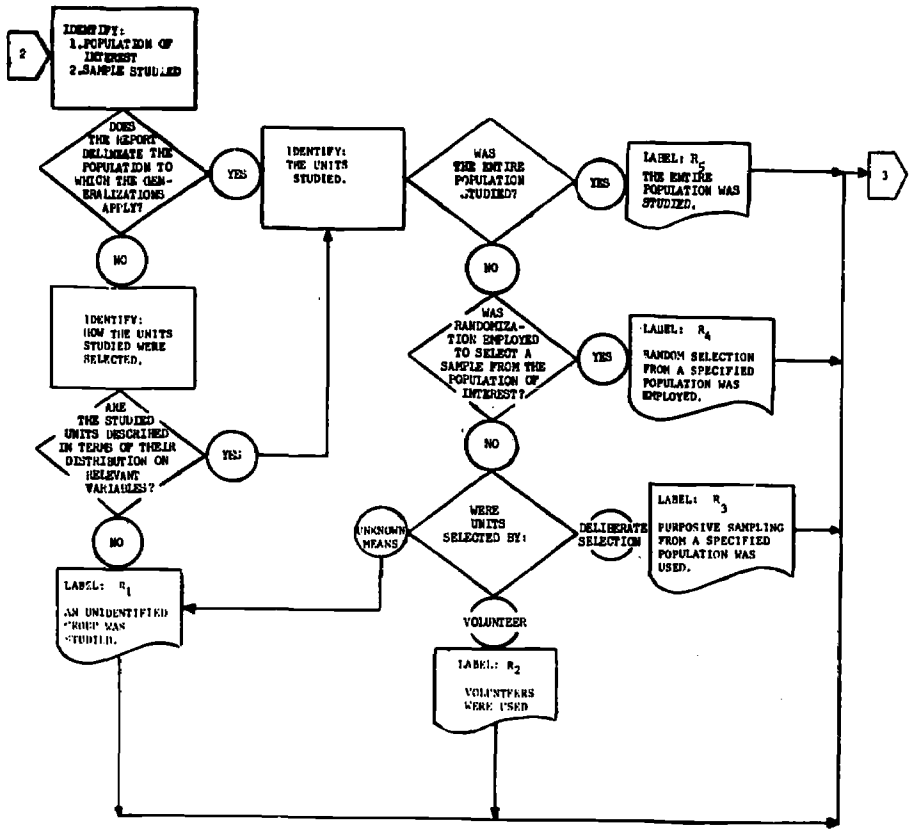
RESEARCH PROFILING FLOW CHART

LOGIC



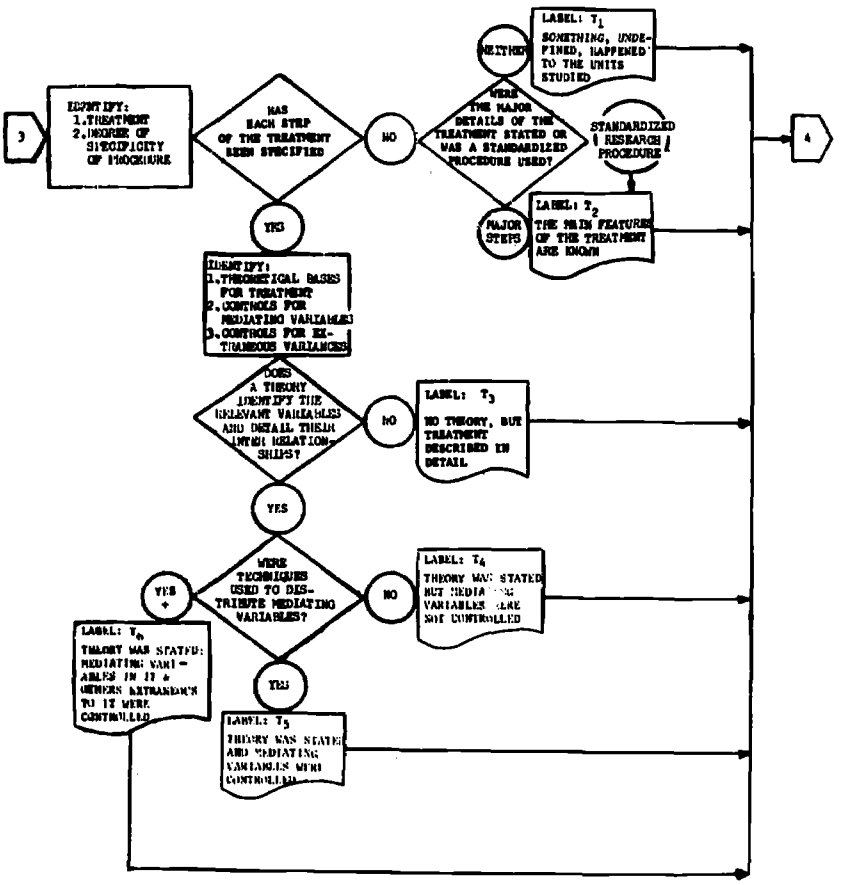
RESEARCH PROFILING FLOW CHART

DATA QUALITY - REPRESENTATIVENESS



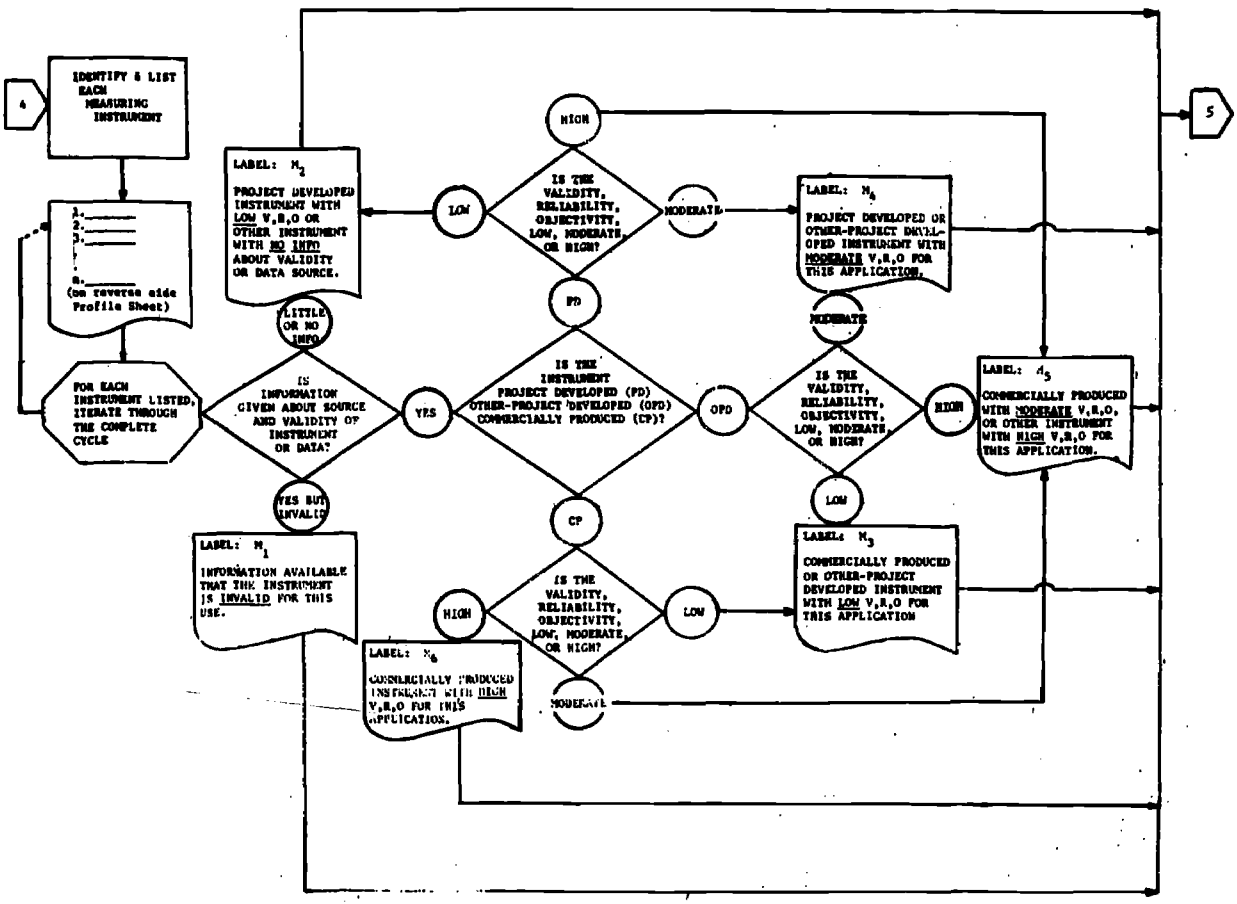
RESEARCH PROFILING FLOW CHART

DATA QUALITY - TREATMENT



RESEARCH PROFILING FLOW CHART

DATA QUALITY - MEASUREMENT



RESEARCH PROFILING FLOW CHART

ANALYSIS

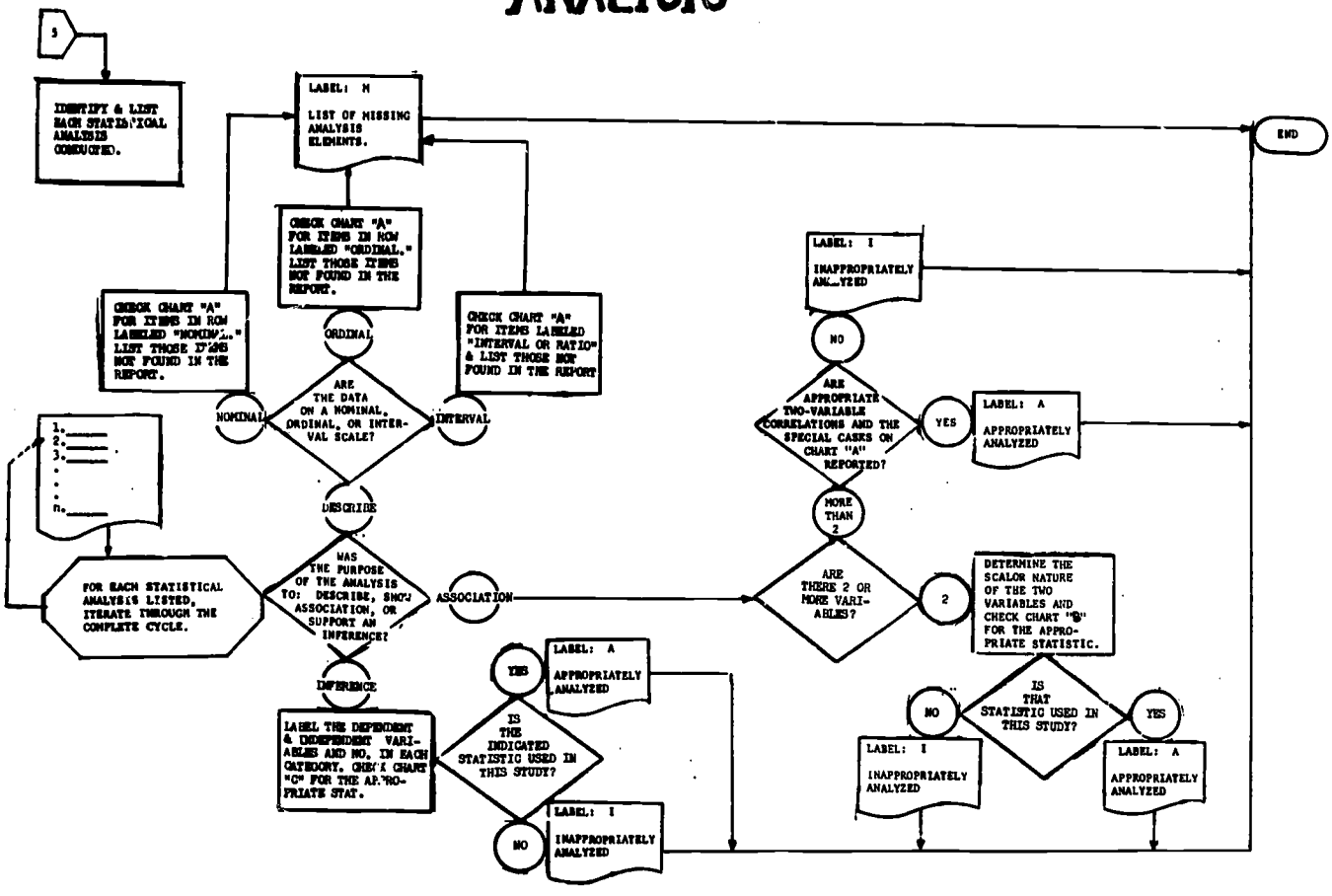


CHART A

POPULATION DESCRIPTORS

	DISTRIBUTION	CENTRAL TENDENCY	DISPERSION
NOMINAL	FREQUENCY IN EACH CATEGORY	MODE	
ORDINAL	FREQUENCY IN EACH SCALOR POSITION	MEDIAN	SEMI-INTERQUARTILE RANGE
INTERVAL/ RATIO	FREQUENCY IN EACH INTERVAL	MEAN	STANDARD DEVIATION

CHART B - MEASURES OF ASSOCIATION

VARIABLE 2* \ VARIABLE 1*	CONTINUOUS	FORCED DICHOTOMY	DICHOTOMY
CONTINUOUS	PEARSON r	BISERIAL r	POINT BISERIAL r
FORCED DICHOTOMY	BISERIAL r	TETRACHORIC r	(NONE AVAILABLE USE CHI SQUARE)
DICHOTOMY	POINT BISERIAL r	NONE AVAILABLE	FOUR FOLD r OR PHI COEFFICIENT

* INTERVAL DATA

SPECIAL CASE
2 VARIABLES

RANK DATA SPEARMAN'S RHO

SPECIAL CASE
MORE THAN 2 VARIABLES

INTERVAL DATA MULTIPLE R
ORDINAL DATA KENDALL'S W
NOMINAL DATA CONTINGENCY COEFF. C

CHART C

INDEPENDENT

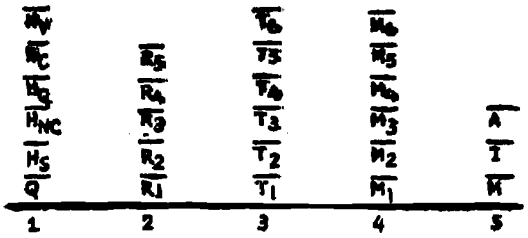
DEPENDENT

DEPENDENT \ INDEPENDENT	NOMINAL 1	NOMINAL >1	ORDINAL 1	ORDINAL >1	INTERVAL 1	INTERVAL >1
NOMINAL 1	FISHER'S EXACT PROB. FOR 2x2 TABLE MC NEMAR'S TEST FOR SIGNIFICANCE OF CHANGES COCHRAN'S Q TEST FOR SEVERAL RELATED PROPORTIONS CHI-SQUARE TEST FOR INDEPENDENCE METHODS FOR MAXIMIZING PROBABILITY OF CORRECT CLASSIFICATION		SIGN TEST MEDIAN TEST MANN-WHITNEY U TEST KRUSKAL-WALLIS 1-WAY ANOVA KOLMOGOROV-SMIRNOV 1-SAMPLE TEST		ANALYSIS OF VARIANCE	HOTELLING'S T^2 MAHALANOBIS' D^2 FISHER'S DISCRIMINANT FUNCTION
NOMINAL >1			FRIEDMAN'S 2-WAY ANOVA		ANALYSIS OF VARIANCE CORRELATION FACTOR ANALYSIS MULTIPLE DISCRIMINANT ANALYSIS	RAO'S V_h MULTIPLE DISCRIMINANT FUNCTION
ORDINAL 1	SIGN TEST MEDIAN TEST MANN-WHITNEY U TEST KRUSKAL-WALLIS 1-WAY ANOVA KOLMOGOROV-SMIRNOV 1-SAMPLE TEST	FRIEDMAN'S 2-WAY ANOVA	INDEX OF ORDER ASSOCIATION	ANALYSIS OF VARIANCE WITH TREND ANALYSIS		
ORDINAL >1						
INTERVAL 1	ANALYSIS OF VARIANCE	INDEPENDENT t ANALYSIS OF VARIANCE ANALYSIS OF COVARIANCE	ANALYSIS OF VARIANCE WITH TREND ANALYSIS		REGRESSION ANALYSIS	MULTIPLE REGRESSION ANALYSIS
INTERVAL >1	CORRELATION FACTOR ANALYSIS MULTIPLE DISCRIMINANT ANALYSIS MULTIPLE REGRESSION ANALYSIS	MULTIPLE DISCRIMINANT FUNCTION			MULTIPLE REGRESSION ANALYSIS	CANONICAL CORRELATION

Most of the measures shown are located with reference to the lowest order of data that should be used with them. One should always be able to transform the observed data downward i.e. interval can be considered ordinal or nominal, ordinal can be considered nominal.

This table is an adaptation of Istomina and Tiedeman's Table 1 in "Statistics As An Aspect of Scientific Method in Research on Teaching" pgs. 154-155, in Handbook of Research on Teaching, N.L. Gage (Ed); Rand McNally, Chicago, 1963, 1218pp

RESEARCH PROFILE SHEET



REPORT TITLE: _____

_____

AUTHOR _____ SOURCE: _____

_____ STOP The report is either not research or it is an incomplete part of the research process.

1 LOGIC

_____ Q Answer to an Empirical Question

Test of a Hypothesis

_____ H_s Stop, Illogical relationship.

_____ H No conclusion.

_____ H^{nc} Hypothesis is questionable.

_____ H_q (Rival hypotheses must be considered a cause of the consequents)

_____ H_c Hypothesis is credible.
(Rival hypotheses may be considered a cause of the consequents)

_____ H_v Hypothesis is verified.
(Rival hypotheses cannot be considered as a cause of the consequents)

2 DATA QUALITY - REPRESENTATIVENESS

_____ R_1 An unidentified group of subjects was studied.

_____ R_2 Volunteers were studied.

_____ R_3 Purposive sampling from a specified population established the group studied.

_____ R_4 Random selection from a specified population established the group studied.

_____ R_5 The entire population was studied.

3 DATA QUALITY - TREATMENT

_____ T_1 No theory; something undefined happened to the units studied.

_____ T_2 No theory; treatment description incomplete, or detailed elsewhere.

_____ T_3 No theory; treatment described in detail in the report.

_____ T_4 Theory stated but no controls on varibles.

_____ T_5 Theory stated and mediating variables controlled.

_____ T_6 Theory stated, mediating variables controlled, and techniques used to distribute possible extraneous variances.

4 DATA QUALITY - MEASUREMENT

_____ M_1 Available information indicates instrument is invalid for this use.

_____ M_2 Project Developed instrument with low validity (V), reliability (R), objectivity (O), or other instrument with no info about validity or data source.

_____ M_3 Used Commercially Produced or Other-Project Developed instrument with low V,R,O for this application.

_____ M_4 Used Project Developed instrument or Other-Project Developed instrument with moderate V,R,O, for this application.

_____ M_5 Used instrument which was Project Developed with high V,R,O, or Other-Project developed with high V,R,O, or Commercially Produced with moderate V,R,O for this application.

_____ M_6 Used Commercially Produced instrument with high V,R,O for this application.

5 STATISTICAL ANALYSIS

_____ A Appropriately analyzed

_____ I Inappropriately analyzed

_____ M Missing items - incomplete analysis

FOOTNOTES

1. George Polyá, Patterns of Plausible Inference: Mathematics and Plausible Reasoning Volume II, Princeton, New Jersey: Princeton University Press, 1954.

2. John McNeil, "Programed Instruction Versus Usual Classroom Procedures in Teaching Boys to Read." American Educational Research Journal 2:113-19; March, 1964.

3. James Raths, "Plausible Logic in Educational Research" Paper delivered at AERA Convention, Feb. 1964. Reprinted in Educational Research: Selected Readings. W. J. Gephart & R. B. Ingle Eds., Columbus, Ohio: Charles E. Merrill, Publisher, 1969.

4. William J. Gephart and Robert B. Ingle, Educational Research: Selected Readings. Columbus, Ohio: Charles E. Merrill, Publisher, (In press 1969).

5. See the grid on the inside cover of Siegel's Nonparametric Statistics, New York: McGraw-Hill Book Co., Inc. 1956.
An unpublished paper presenting a grid for selecting the appropriate correlation coefficient developed by W. J. Gephart, the flow chart for analysis of variance in K. D. Hopkins & R. A. Chadbourn, "A Scheme for Proper Utilization of Multiple Comparisons in Research and a Case Study." American Educational Research Journal, 4:407-12, Nov. 1967.

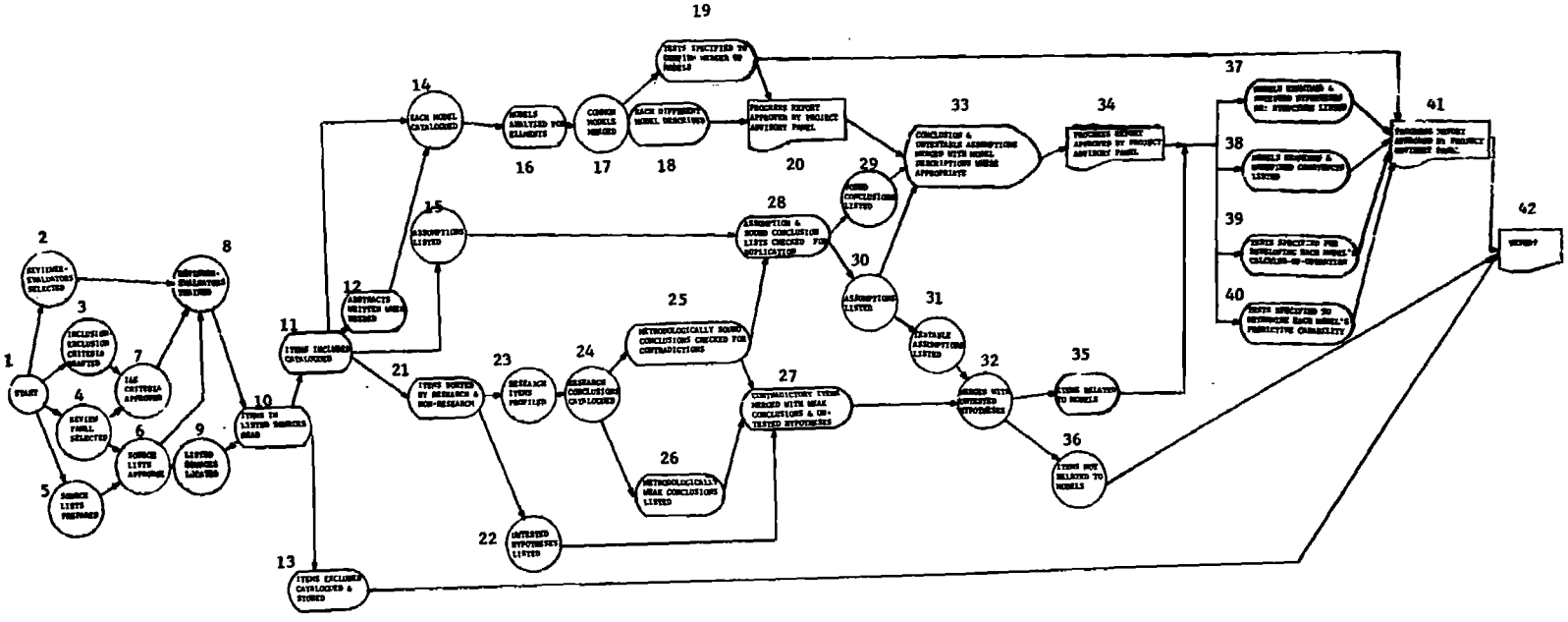
6. See the grid presented by D. V. Tiedeman and M. Tatsuoka in Handbook of Research on Teaching. N. L. Gage Ed., Chicago: Rand McNally Publishers, 1963.

7. Donald Ary, Unpublished mimeo. Indiana University, Bloomington, Indiana, 1968.

8. Described by Philip Runkle, "Some Recent Developments in Research Methodology." 1965 ERIC Document ED 010 221.

(Attachment B - continued)

I D2



TRDPR Literature Search

W.J. Gephart

12-15-69

(Attachment B - continued)

I D3

LITERATURE SEARCH ACTIVITY DETAIL

The statements below are keyed by numbers to the activities in the TRDPR Literature Search Flow Chart. They are not necessarily in numerical sequence.

1. Start.
2. Reviewer-Evaluators Selected--Several persons must be employed to do the work of reading and evaluating the separate items of related literature. It is suggested that these persons be recent doctoral graduates with a composite of specialities likely to be encountered in the literature (e.g.: perception, vision, reading, learning, etc.).
3. Inclusion-Exclusion Criteria Drafted--The project personnel need to prepare an initial statement of criteria for the inclusion or exclusion of separate pieces of literature in this synthesis activity. This statement is to be used as a working draft with the project review panel.
4. Review Panel Selected--Specialists from each of the disciplines likely to contribute information about models or models themselves should be contracted with as an advisory/review panel for the project. (Possible participation should be arranged prior to submitting a proposal and the tentative advisory panel members and their qualifications listed with the proposal.)
5. Source Lists Prepared--The project staff should prepare a draft listing of the literature sources to be examined in the project.
6. Source Lists Approved--The Advisory Panel should check the draft listing of literature sources. Where possible they should add additional sources to insure

comprehensiveness of the literature search. Where the Advisory Panel is certain of the unproductiveness of a source, it should be deleted. The source list that is approved will provide the boundaries for the literature search in terms of published works and unpublished research reports and articles to be examined.

7. I &E Criteria Approved--The Advisory Panel should check the draft criteria for their clarity and comprehensiveness and made modifications where their expert judgment deems it warrented. This activity will produce a set of criteria on which to base the decision to include (or exclude) a specific document or article in the literature synthesis.
8. Reviewer-Evaluators Trained--The selected reviewer-evaluators must understand (1) the Inclusion-Exclusion Criteria, (2) the overall purpose of the search (see items 19 & 37-42), (3) the procedures to be employed in the search, (4) the nature of and format for abstracts on all processed literature items, (5) the research profiling approach to the evaluation of the methodological adequacy of completed research (See Occasional Paper No. 3, "Profiling Educational Research," attached.), and (6) resources available to them for resolving questions encountered in their work.
9. Listed Sources Located--After a literature source list has been approved, each item in it must be physically located. If the originals of complete copies can be obtained they should be. If not, arrangements must be made to work with them at their current location.
10. Items in Listed Sources Read--One or more of the reviewer-evaluators must read each document (report or article) from each listed source and examine it against the inclusion-exclusion criteria.

11. Items Included Catalogued--Each document which satisfies the inclusion criteria shall be catalogued by recording source, bibliographic information, and topics dealt with.
12. Abstracts Written When Needed--A brief abstract for all included items shall be prepared giving general description of the item and explicit listing of assumptions, hypotheses, conclusions, and models described.
13. Items Excluded Catalogued and Stored--Each document that fails to meet the inclusion criteria shall be catalogued by recording source, bibliographic information and reason for exclusion.
14. Each Model Catalogued--Every model discussed in the literature will be catalogued by recording a brief description of the model and its bibliographic source.
15. Assumptions Listed--A separate file will be kept which lists the assumptions made by an author or researcher. This listing will include a statement of the assumption and bibliographic information.
16. Models Analyzed for Elements--Each model will be analyzed to identify their constituent elements.
17. Common Models Merged--When two or more separately referenced models are analyzed as consisting of the same component elements, they will be merged and a statement made giving the rationale for this merger.
18. Each Different Model Described--As complete a description as possible will be prepared for each model remaining on the lists after all mergers have been effected.
19. Tests Specified to Confirm Merger of Models--The merger of two or more models will have been done on the basis of a logical analysis of their elements. This logic must be tested empirically in Phase II of the Program. Thus, as models are merged, empirical tests which will confirm or disconfirm each merger must be designed.

20. Progress Report Approved by Advisory Panel--The Advisory Panel will be asked at this point to check (1) the adequacy of the analysis of each identified model, (2) the logic of the merger of two or more models, (3) the comprehensiveness of the work to date, i.e., are there any models known to members of the Panel that have not been incorporated into the listings and synthesis to date.

21. Items Sorted by Research and Non-Research--As each document is read it is to be catalogued either as a report of empirical research or other. If the report poses and empirically tests a hypothesis or answers an empirical question it is to be accepted as research.

22. Untested Hypotheses Listed--All documents labeled non-research will be examined for untested hyotheses. These will be listed along with untested hypotheses presented in research documents. Along with the hypothesis, bibliographic information will be recorded.

23. Research Items Profiled--Each document labeled a research item in No. 21 will be analyzed for methodological characteristics and adequacy. This analysis will examine the inherent logic in the research design, the quality of sampling, measurement, and treatment techniques, and the adequacy of the statistical analysis employed. (See Occasional Paper No. 3, "Profiling Educational Research", attached).

24. Research Conclusions Catalogued--Each conclusion in these articles will be listed along with a profile of the adequacy of the research methodology on which it is based. Common conclusions will be merged and the resultant conclusions listed under two rubrics, methodologically sound or unsound.

25. Methodologically Sound Conclusions Checked for Contradictions--The listing of conclusions based on sound research methodology must be examined for contradictions. Where two or more contradictory conclusions are identified, they must be considered as inconclusive and sorted from what is known about the phenomenon under study.
26. Methdologically Weak Conclusions Listed--All conclusions based on questionable research methods shall be listed as still-to-be-tested hypotheses along with bibliographic references and the rationale for their placement in this category.
27. Contradictory Items Merged with Weak Conclusions and Untested Hypotheses--The conclusions listed in activity 25 and 26 and the untested hypotheses listed in activity 22 are to be accumulated and common items merged to form a list of untested hypotheses.
28. Assumptions and Sound Conclusion Lists Checked for Duplication--The listings from activities 15 and 25 are to be compared for duplication. Any items common to the two lists are to be deleted from the list of assumptions.
29. Sound Conclusions Listed--This listing constitutes the empirically substantiated body of knowledge about the phenomenon being studied.
30. Assumptions Listed--Two categories of assumptions exist in research, things beyond our ability to empirically confirm and things that can be but have not been confirmed to date. Any final list of assumptions should not include any of the second type if they have been empirically confirmed by other research efforts. The list of assumptions possible after activity 28 will exclude any such items.

31. Testable Assumptions Listed--Those assumptions in the listing produced in activity 30 which are subject to empirical tests shall be separately listed along with suggestions for the nature of those empirical tests.

32. Merged with Untested Hypotheses--The assumptions which are subject to empirical tests are comparable to untested hypotheses and should be merged with the list produced in activity 27.

33. Conclusions and Untestable Assumptions Merged with Model Descriptions Where Appropriate--This activity produces a synthesis of what is known and assumed for each separate model identified in the literature search. As such it is the most detailed statement about each model of the phenomenon being studied consistant with the current state of the art.

34. Progress Report Approved by Project Advisory Panel--The synthesis of what is known and assumed with accepted model descriptions should be examined by the Panel for logic and comprehensiveness. If it appears possible to further merge either partial models into a comprehensive model or to merge comprehensive models, such mergers should be discussed with and approved by the Advisory Panel.

35. Items Related to Models--The listing of untested hypotheses should be culled for items that relate to one or more of the models approved in activity 34.

36. Items Not Related to Models--Those items remaining in the list of untested hypotheses after activity 35 should be catalogued along with bibliographic references, and suggestions for the nature of their empirical tests.

37. Models Examined and Untested Hypotheses Regarding Structure Listed--Hypotheses about the structure of models approved in activity 34 should be listed by (a) examination of each model itself or (b) from the lists generated in activity 35. Where possible the details for testing a specific hypothesis should be specified and documented.

38. Models Examined and Undefined Constructs Listed--It is anticipated that hypothetical constructs will be involved in the models that reach this stage. Those constructs should be listed and research proposed which will empirically define them (i.e., attention, motivation, etc.).

39. Tests Specified for Developing Each Model's Calculus-of-Operation--It is anticipated that models which reach this stage will be verbal or verbal-pictorial representations of the phenomenon studied. In such a model the interrelationship of elements is suggested but not specified. Tests must be described which will quantify these elements (i.e., eye-movement, attention, meaning, etc.) and develop mathematical formulations for their interrelationships.

40. Tests Specified to Determine Each Model's Predictive Capability--A model is a representation of some thing or phenomenon. It displays the elements of the modeled phenomenon, the manner in which those elements interact, and the results of their interaction. When a good model is operated it should produce results that are produced by the phenomenon itself. Each model identified in the literature search and approved in activity 34 should be examined for this predictive capability. For models that have reached a sufficient stage of development, tests of predictive capability must be specified.

(Attachment B - continued)

41. Progress Report Approved by Project Advisory Panel--This approval covers five categories of proposed research efforts: (1) Studies to confirm the merger of two or more models; (2) Tests of hypotheses about the structure of identified models; (3) Studies designed to further define constructs in the models; (4) Studies designed to facilitate quantification of the factors involved in the models and of their function; and (5) Studies designed to test a model's predictive capability. The Advisory Panel should examine the specific studies proposed for their logic and comprehensiveness and make appropriate suggestions for improvement.

42. Report--The final report shall include: (1) a description of each model identified and approved by the Advisory Panel along with documentation of its features as currently known and its operational characteristics; (2) Proposals for specific studies recommended for the further development of these models; (3) A listing of the untested hypotheses which are unrelated to any model; and (4) an annotated bibliography of those documents examined but rejected for this literature synthesis.

(Attachment B, continued)

IE

Targeted R&D Program on Reading
Project No. 3: Status Survey

I. Statement of Purpose:

The Targeted R&D Program on Reading assumes the existence of a significant, quantifiable deficit between the present state of reading ability in the U.S. and the individual and social literacy needs of the populace. The Status Survey specified in this Section of this Request for Proposal involves a search of literature relevant to the pursuit of the three tasks listed below. Using existing survey and test data, and other scientific literature:

1. Determine the extent and distribution of the national "reading problem."
2. Determine the use frequency and use distribution of instructional methods, approaches, procedures, materials, and equipment for reading instruction.
3. Describe the nature and extent of current practice in teacher training for (2) above.

II. Definitions:

1. Reading achievement: The phenomenon quantified by existing, norm-referenced reading tests which are in widespread use. Reading achievement and reading ability are used synonymously in this document.

(Attachment B, continued)

2. Method of reading instruction: A systematic collection of instructional materials, equipment, and guidance for teachers who use the materials and equipment to help children develop reading achievement.

3. Approach to reading instruction: A generic term descriptive of families of "methods." Examples of approaches are: "a basal reader approach," "a code-emphasis approach," "a language experience approach," and "a meaning-emphasis approach."

4. Instructional materials: The books, worksheets, and other software used in reading instruction.

5. Equipment: The computers, pacers, tachistoscopes, and other hardware used in reading instruction.

6. Conceptual basis: The empirically and/or intuitively derived information upon which an instructional method is built.

III. Scope of Work:

1. Determine the extent and distribution of the National "reading problem."

The Contractor shall provide 100 copies of a report which identifies, analyzes, and summarizes existing survey and test data which relate to the reading ability of various population groups found in the U.S. The Contractor's full insight is sought in designing and producing the synthesis of these items in a manner which specifies the levels of reading achievement currently being attained, according to:

a. Learner characteristics such as sex, age, race, I.Q., etc; and

b. Characteristics of the learner's environment such as socioeconomic

level, geographic area, language spoken in home, level of of formal education attained by parents, etc.

2. Determine the use frequency and use distribution of instructional methods, approaches, procedures, materials, and equipment for reading instruction.

It is assumed that a wide variety of instructional methods, approaches, materials, and equipment is actively used in school settings and other settings to teach people to read. Further, it is assumed, on advice from experts and researchers who study reading, that the fundamental differences among the conceptual bases behind the many instructional approaches, materials, and equipment have not been determined. The Contractor shall provide 100 copies of a report which details the findings of a literature search designed to pursue the following questions:

a. What methods, materials, approaches, equipment, and procedures are used to teach reading in the United States, and to what extent are the major items in these categories used; i.e., how many learners are exposed to them?

b. Which methods of reading instruction are built upon essentially different pools of basic knowledge? (This question assumes that although methods will differ widely in matters related to formats for presenting learning sequences, relatively few methods use intuitive and/or empirical knowledge not used by other methods.

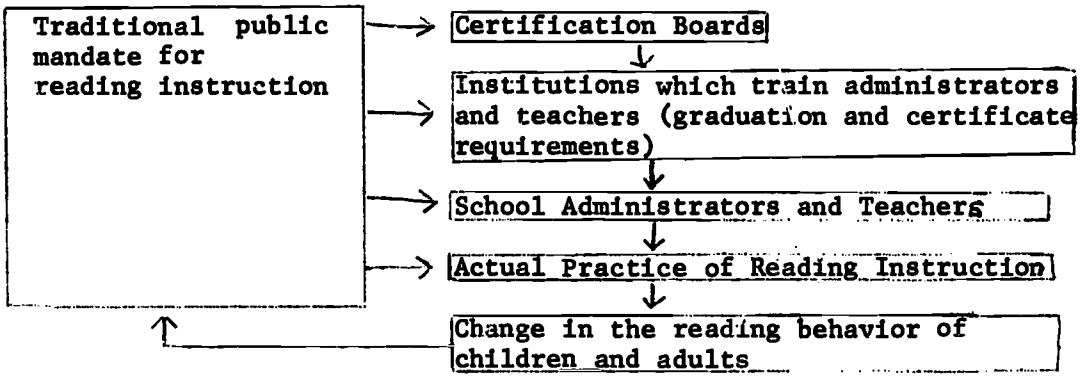
c. How much time and resources are expended directly upon

developmental reading instruction and remedial reading instruction, and indirectly upon the supervision of reading instruction?

d. What relationships between (2b) and (1a and b) can be shown?

3. Describe the nature and extent of current practice in the training of those who teach reading.

In the United States, reading ability is the product of an extremely complex system of institutions and people. Although the detail of the system varies from locality to locality, its gross dynamics may be charted as follows:



Every arrow in the flow chart identifies a point at which distortion can occur: Do certification boards accurately translate the public mandate into teacher training requirements? Do teachers practice as they were taught to practice? Every block in the flow chart identifies a point at which an information-exchange activity, in varying quality and quantity, takes place. The Contractor shall provide 100 copies of a report which details the findings of a literature search designed to describe the system charted above in terms of the discrepancies

between announced or implicit objectives and actual performance at each level. To the extent that information exists in the published literature the scope of the studies shall include (a) all 4-year institutions which train at least 100 elementary school teachers per year; (b) certification standards for elementary school teachers, reading specialists, and reading supervisors in the 50 States and the District of Columbia; and (c) teacher performance in relation to (a) and (b).

IV. Plan of Operation:

Appended to the Section of this Request for Proposal titled "Project No. 2: Literature Search" are (1) a flow chart and explanatory key; and (2) "Occasional Paper No. 3: Profiling Educational Research" by William J. Gephart. These two items suggest the level of effort that will be required in carrying out "Project No. 3: Status Survey", as well. It is recognized that the flow chart requires adaptation to the requirements of "Project No. 3: Status Survey." Bidders are expected to present a documented logical case to justify the procedures that they propose to follow, whether those procedures adopt, modify, or replace those shown in the flow chart and occasional paper. Regardless of the procedures proposed, bidders will be expected to provide a comprehensive listing of information sources that will be used.

V. Criteria for the Evaluation of Proposals:

1. Evidence that the Offeror can provide the overall management

(Attachment B, continued)

capability necessary to insure quality, completeness, and efficient utilization of time and funds.

2. Appropriateness of the training and experience of the staff and consultants.

3. Appropriateness and adequacy of the technical methodology proposed for each of the three activities in the section labeled "Scope of Work."

GPO 889-306

HEW NEWS

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education
Washington, D.C. 20202

SMITH -- (WORK) Area Code 202-962-4954
(HOME) " " 703-521-4254
BROUDY -- (WORK) " " 202-962-6833
(HOME) " " 301-654-7120

FOR RELEASE IN A.M. PAPERS
Friday, July 31, 1970

HEW-248

HEW's Office of Education announced today the launching of a new research program in connection with the National Right to Read Effort for the 1970's endorsed by President Nixon in his educational reform message.

"The Targeted Research and Development Program on Reading is designed to provide the scientific foundation for the Right to Read Effort," said Acting U.S. Commissioner of Education Terrel H. Bell. "The goal of this important program is to enable every child in a national sample to achieve sufficient reading skill by age 10 to become a competent adult reader."

More than $500,000 has been awarded by the Office of Education's National Center for Educational Research and Development (NCERD) to support three initial research projects during their first six months of operation. Provided satisfactory progress is made, NCERD later plans to award an additional $1 million to continue the projects which will run from 12 to 30 months.

Contracts (subject to final negotiations) went to: Educational Testing Service (ETS) Princeton, N.J., $338,099; Rutgers, The State University, Brunswick, N.J., $137,144; Educational Testing Service (ETS Western Office), Berkeley, Calif., $97,747.

The first project, headed by Donald A. Trismen at ETS (Princeton), will develop standards for adult reading competence by pinpointing the basic printed materials with which people presently must work in order to perform tasks necessary in our society. In addition, it will provide tools for evaluating reading instruction systems and devise a method for determining the progress

- M O R E -

being made toward the goal of eliminating reading failure.

Martin Kling of Rutgers, director of the second project, will search the scientific literature to identify promising lines of investigation and determine the work needed to produce valid models of the reading process, the learning-to-read process, and of language acquisition.

In the third project, Reginald A. Corder at ETS (Berkeley) will use current reading statistics to produce a profile of reading achievement in the U.S. by age, sex, ethnic background, and other groupings. He will also catalog the various techniques, equipment, procedures, and practices used in teaching reading.

Next summer, the completion of projects two and three will permit further refinement of plans for the next stage of the program. This stage will support research to increase scientific knowledge about reading while advancing work on promising instruction programs.

The projects announced today were selected from among 31 bids received in response to a request for proposals issued by NCERD. Panels of experts from within and outside the agency reviewed the proposals.

Support for the projects is provided under the amended Cooperative Research Act which authorizes research, development, and dissemination to improve education at all levels.

###